

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

**Listing of Claims:**

1. (Currently Amended) A ~~lump~~ group management apparatus comprising:

a plurality of inspection/manufacturing apparatuses arranged in a semiconductor production line;

5 sensor units for acquiring maintenance information concerning maintenance target items of the respective inspection/manufacturing apparatuses;

a plurality of inspection/manufacturing apparatus computers, each of which is connected with each of or a groups to at least  
10 one of the inspection/manufacturing apparatuses and ~~includes a function to control~~ controls operations of the ~~respective at least one~~ inspection/manufacturing ~~apparatuses~~ apparatus connected thereto in accordance with operation conditions corresponding to ~~the respective~~ said at least one  
15 inspection/manufacturing ~~apparatuses~~ apparatus; and

a management computer which is connected with the ~~respective~~ inspection/manufacturing apparatus computers through a communication line, ~~and includes:~~ said management computer comprising:

20 a transmission/reception ~~function~~ section to ~~transmit/receive~~ transmit and receive information to and from the inspection/manufacturing apparatus computers with respect to at

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

least one of: each information item of the operation conditions  
~~set to corresponding to~~ the respective inspection/manufacturing  
25 apparatuses, or and the maintenance information from each said  
sensor unit; ~~of the inspection/manufacturing apparatuses to/from~~  
~~the respective inspection/manufacturing apparatus computers;~~

a change function section to intensively manage the  
operation conditions set to the respective inspection/  
30 manufacturing apparatus computers ~~in a lump as a group~~ and  
to change the respective operation conditions in a lump of at  
least a selected plurality of the inspection/manufacturing  
apparatuses as a group with respect to the at least one  
inspection/manufacturing computer ~~of the specified each~~

35 corresponding to said at least a plurality of the inspection/  
manufacturing apparatus apparatuses;

a notification function section to intensively manage  
the maintenance information from each sensor unit of each  
inspection/manufacturing apparatus ~~in a lump as a group~~, to  
40 ~~monitor an abnormality of the maintenance information of the~~  
respective inspection/manufacturing apparatuses ~~based on the~~  
~~maintenance information~~ in order to predict ~~the abnormality a~~  
problem, and notify to issue a warning at ~~the a~~ time of  
occurrence of the ~~abnormality problem;~~ and

45 a display function section to display on a same display  
screen of a monitor device: (i) at least one of each said

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

information item of the operation conditions of the respective  
inspection/manufacturing apparatuses, ~~or and~~ each said  
maintenance information item, and (ii) an arrangement layout  
50 drawing of the ~~respective~~ inspection/manufacturing apparatuses,  
~~on the same screen of a monitor device.~~

2. (Currently Amended) The ~~lump~~ group management apparatus  
according to claim 1, wherein each of the inspection/  
manufacturing apparatuses has ~~at least one~~ a plurality of types  
of inspection functions; and

5 wherein the change section of the management computer  
selects at least one of the inspection functions, and changes  
only the selected at least one inspection function when changing  
the operation conditions of said at least a plurality of the  
inspection/manufacturing apparatuses as a group. ~~function of a~~  
10 ~~pattern inspection, a line width inspection, an auto macro~~  
~~inspection and a micro inspection.~~

Claim 3 (Canceled).

4. (Currently Amended) The ~~lump~~ group management apparatus  
according to claim 1, wherein the display section of the  
management computer ~~further includes as the display function a~~  
~~function to display~~ displays the inspection/manufacturing

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

- 5 ~~apparatus apparatuses as a management target targets and its~~  
~~displays the inspection/manufacturing apparatuses and the~~  
~~operation conditions thereof in the form of a list respective~~  
~~lists, and~~  
~~wherein the display section does not display the management~~  
10 ~~target displayed in this list and each inspection/manufacturing~~  
~~any apparatus which is not a management target and not displayed~~  
~~in the a list, and displays the inspection/management apparatuses~~  
~~as the management targets in a different conformations~~  
~~conformation than said any apparatus that is not a management~~  
15 ~~target in the arrangement layout drawing.~~

5. (Currently Amended) The ~~ump~~ group management apparatus  
according to claim 1, wherein, when at least one of the  
inspection/manufacturing apparatuses is specified on the  
arrangement layout drawing, the display section of the management  
5 ~~computer further includes as the display function a function to~~  
~~visually display and output the arrangement layout drawing in the~~  
~~monitor device, and display displays each said specified~~  
~~inspection/manufacturing apparatus and the other in a different~~  
~~conformation than unspecified inspection/manufacturing~~  
10 ~~apparatuses which are not specified in different conformations in~~  
~~the arrangement layout drawing.~~

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

6. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein, when at least one of the inspection/manufacturing apparatuses is specified on the arrangement layout drawing, the display section of the management  
5 ~~computer further includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and display~~ extracts and displays the maintenance information corresponding to the at least one specified  
10 inspection/manufacturing apparatus, and displays each said specified inspection/manufacturing apparatus as a maintenance target so as to be in a different from the other conformation than unspecified inspection/manufacturing apparatuses in the arrangement layout drawing.

Claim 7 (Canceled).

8. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein the management computer further ~~includes a function~~ comprises a setting section to set a timing to validate the operation conditions changed as a group. in a  
5 ~~lump with respect to each specified inspection/manufacturing apparatus.~~

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

9. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein the ~~management computer further includes a sort/select function to classify/rearrange the operation conditions set to the~~ said plurality of inspection/  
5 manufacturing apparatuses in accordance with each are classified for changing the corresponding operation conditions one of: by  
apparatus, each by apparatus category, or each apparatus group  
and collectively rewrites the operation conditions of an  
inspection/manufacturing apparatus classified by using the  
10 sort/select function as the change function and by  
inspection/manufacturing line, and

wherein the display section displays the operation  
conditions corresponding to the classified inspection/  
manufacturing apparatuses in a display column, the operation  
15 conditions are one of set and rearranged via manipulation of the  
display column, and the change section rewrites the operation  
conditions of the classified inspection/manufacturing apparatuses  
as a group.

Claim 10 (Canceled).

11. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein the ~~management computer further includes as the notification function a function to determine~~

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

maintenance target items of the respective inspection/  
5 manufacturing apparatuses comprise a light source used in  
inspection or manufacture in each of the inspection/manufacturing  
apparatuses; and as a maintenance target item, integrate  
wherein the notification section: (i) integrates lighting  
times of the respective light sources of the respective  
10 inspection/manufacturing apparatuses and compare the compares an  
integration result with an average life time, generate (ii)  
generates a notification to call attention when the light source  
is close to a life end point, keep giving (iii) generates a  
warning by using sound until replacement of the light source when  
15 the average life time is reached and when the light source cannot  
be used, and notify (iv) notifies a portable terminal of an  
operator of a warning.

12. (Currently Amended) The lamp group management apparatus  
according to claim 1, wherein the management computer further  
includes a light control function to determine maintenance target  
items of the respective inspection/manufacturing apparatuses  
5 comprise a light source used in inspection or manufacture in each  
of the inspection/manufacturing apparatuses; and as a maintenance  
target item, illuminate an  
wherein the management computer further comprises a light  
control section which: (i) illuminates a reference inspection/

Application No. 10/798,755  
Response to Office Action

Customer No. 01933

- 10 manufacturing object ~~as a reference~~ each said light source while  
changing a voltage of the light source, ~~in advance, create~~  
(ii) creates an ideal lamp characteristic curve from based on  
brightness data and a voltage obtained by measuring by using the  
with a corresponding said sensor units unit a brightness of  
15 reflected light beams acquired from reflected from the reference  
inspection/manufacturing object during the illumination and  
brightness data, and adjust (iii) during inspection/manufacturing  
of an object to be inspected/manufactured, adjusts a voltage of  
20 the light source in such a manner that the a brightness of the  
object to be inspected/manufactured becomes is equal to the a  
brightness relative corresponding to a set voltage having of the  
ideal lamp characteristic curve. characteristics in an  
inspection/manufacturing step of each of the  
inspection/manufacturing apparatuses.